

CLAIMS:

What is claimed is:

1. An external bone/joint fixation component comprising:

A one-piece frame having a posterior portion lying essentially in a first plane and an anterior portion transverse to said posterior portion and lying essentially in a second plane; and

a first plurality of fixation bores disposed in said posterior portion and a second plurality of fixation bores disposed in said anterior portion each of which is configured to receive a wire fixator that is adapted to receive an end of a fixation wire.

2. The external bone/joint fixation component of claim 1, wherein said second plane lies at an angle of between 70° and 110° from a perpendicular to said first plane.

3. The external bone/joint fixation component of claim 2, wherein said angle is 90°.

4. The external bone/joint fixation component of claim 1, wherein said frame is fabricated from a material exhibiting a flexibility of less than 0.5 mm in said second plane and less than 2.0mm in said first plane.

5. The external bone/joint fixation component of claim 1, wherein said posterior portion comprises an arcuate section.
6. The external bone/joint fixation component of claim 5, wherein said arcuate section incorporates a frame stress reduction radius.
7. The external bone/joint fixation component of claim 6, wherein said radius is between 0.06 inches and 1.5 inches.
8. The external bone/joint fixation component of claim 1, wherein said posterior portion has a thickness of between 0.06 and 0.5 inches.
9. The external bone/joint fixation component of claim 1, further comprising:
a cross bar attachable to said anterior portion of said frame in a plurality of angular positions relative to said first plane, said cross bar having a plurality of cross bar bores each of which is configured to receive a wire fixator that is adapted to receive another end of the fixation wire.
10. The external bone/joint fixation device of claim 9, wherein said cross bar is also rotatable about a longitudinal axis of said cross bar.

11. The external bone/joint fixation device of claim 9, further comprising first and second cross bar holders configured for attachment to said anterior portion of said frame and for receipt of an end of said cross bar.

12. The external bone/joint fixation device of claim 11, wherein each cross bar holder is configured to clamp against an end of the cross bar when the cross bar holder is mounted to said anterior portion of said frame.

13. The external bone/joint fixation device of claim 1, wherein said anterior portion extends above said first plane.

14. The external bone/joint fixation device of claim 13, wherein:

said posterior portion is configured to capture the posterior aspect of a foot; and

said anterior portion has first and second legs respectively extending from said posterior portion, and a transverse section extending from said first and second legs.

15. The external bone/joint fixation device of claim 14, wherein said first and second legs each have elongated bores adapted to receive a cross bar holder mounting bolt.

16. The external bone/joint fixation device of claim 1, further comprising calibration markings disposed on said posterior portion.

17. The external bone/joint fixation device of claim 1, wherein said frame is fabricated from at least one of a composite material, a polymer, a metal alloy and a shape memory material.

18. The external bone/joint fixation device of claim 1, wherein said frame is fabricated from a radiolucent material.

19. An external bone/joint fixation device comprising:

 a frame component defined by a posterior portion and an anterior portion disposed transverse to said posterior portion, said frame component including a plurality of first fixation bores each of which is configured to receive a wire fixator that is adapted to receive an end of a fixation wire; and

 a cross bar component attachable to said anterior portion of said frame component and having a plurality of second fixation bores each of which is configured to receive a wire fixator that is adapted to receive another end of the fixation wire, said cross bar and said frame component providing controlled compression of a bone or joint retained by fixation wires tied to said frame component and said cross bar.

20. The external bone/joint fixation device of claim 19, wherein said cross bar is rotatable about a longitudinal axis of said cross bar.

21. The external bone/joint fixation device of claim 19, further comprising first and second cross bar holders configured for attachment to said anterior portion of said frame component and for receipt of an end of said cross bar.

22. The external bone/joint fixation device of claim 21, wherein each cross bar holder is configured to clamp against an end of the cross bar when the cross bar holder is mounted to said anterior portion of said frame component.

23. The external bone/joint fixation device of claim 19, wherein said anterior portion extends above a first plane defined by said posterior portion.

24. The external bone/joint fixation device of claim 19, further comprising a posterior angulation component configured to be received on said posterior portion and including a wire retention bore adapted to receive a fixator for receipt of another end of the fixation wire.

25. The external bone/joint fixation device of claim 24, wherein said posterior angulation component is adjustably positionable on said posterior portion.

26. The external bone/joint fixation device of claim 25, wherein said posterior angulation component is adjustably positionable on said posterior portion through attachment thereof in one or more of said first fixation bores.

27. The external bone/joint fixation device of claim 19, further comprising an elevator configured to extend about a bottom portion of said frame component and allowing access to a sole of the foot.

28. The external bone/joint fixation device of claim 27, wherein said elevator is adapted to evenly distribute pressure applied thereto.

29. The external bone/joint fixation device of claim 27, wherein said elevator is arcuate shaped.

30. The external bone/joint fixation device of claim 19, wherein said frame component is formed as one piece.

31. The external bone/joint fixation device of claim 19, further comprising calibration markings disposed on said posterior portion.

32. The external bone/joint fixation device of claim 19, wherein said frame is fabricated from at least one of a composite material, a polymer, a metal alloy and a shape memory material.

33. The external bone/joint fixation device of claim 19, wherein said frame is fabricated from a radiolucent material.

34. An external bone/joint fixation device comprising:

 a frame component defined by a posterior portion and an anterior transverse portion, said frame component including a plurality of fixation bores; and

 first and second compression rails disposed on said frame component.

35. The external bone/joint fixation device of claim 34, wherein said first and second compression rails are moveable in an anterior/posterior direction.

36. The external bone/joint fixation device of claim 34, wherein said first and second compression rails are disposed radially inwardly of said frame.

37. The external bone/joint fixation device of claim 34, wherein said first and second compression rails are disposed radially outwardly of said frame.

38. The external bone/joint fixation device of claim 34, wherein said first and second compression rails are disposed axially above said frame.

39. The external bone/joint fixation device of claim 38, wherein said first and second compression rails are adjustably disposed axially above said frame.

40. The external bone/joint fixation device of claim 34, wherein said first and second compression rails are adjustable via receipt in one or more of said fixation bores.

41. An external bone/joint fixation component comprising:

a modular frame having a posterior portion lying essentially in a first plane and an anterior portion transverse to said posterior portion and lying essentially in a second plane; and

a first plurality of fixation bores disposed in said posterior portion and a second plurality of fixation bores disposed in said anterior portion each of which is configured to receive a wire fixator that is adapted to receive an end of a fixation wire.